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| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. | | | ROSARIO, DENNIS | |
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2621

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/940,432

Applicant(s)

MURATA ET AL.

Examiner

Dennis Rosario-Vasquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment was entered on September 30, 2004. Claims 1-24 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1,6,7,9. 15 and 16 have been considered but are moot in view of the new ground(s) of rejection.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1,7,9 and 15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 4 and 8 of copending Application No. 09/645,511. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 4 of the copending Application No. 09/645,511 is more specific than claim 1 of the instant application.

Regarding claims 1 and 9, all the limitations of claim 1 of the instant application are found in claim 4 of copending Application No. 09/645,511 except for the limitations of "inputting a plurality of images of an object on an object plane" found on line 3 of claim 4; and "which is parallel to the object plane" found on line 15 of claim 4.

Regarding claim 7, all the limitations of claim 7 of the instant application are found in claim 6 of the copending application except for the limitations of "inputting a plurality of images of an object on an object plane" found on line 3 of claim 4; and "which is parallel to the object plane" found on line 15 of claim 4.

Regarding claim 15, all the limitations of claim 15 of the instant application are found in the copending application in claim 18 except for the limitations of "input a plurality of images of an object on an object plane" found on lines 5 and 6 of claim 18; and "which is parallel to the object plane" found on lines 18 and 19 of claim 18.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3-10 and 12-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Herman et al. (US Patent 6,075,905 A).

Regarding claim 1, Herman et al. discloses an image processing method, apparatus and means for correcting image distortions caused by oblique imaging in which an original image of an object on an object plane is taken from different oblique directions to obtain a plurality of partially overlapping images, comprising the steps of:

a) a correspondence detecting unit (Fig. 1,num. 103:IMAGE ALIGNMENT) and first program code means (Fig. 8,num. 820: CORRELATE TO REFERENCE is part of a flow chart that corresponds to fig. 1,num. 103:IMAGE ALIGNMENT) for determining a feature point (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60. Thus, one point from the corresponding points can be a feature point.) of one of the plurality of partially overlapping images (Fig. 1,num. 102: SOURCE IMAGE SELECTION "finds a set of...images" in col. 4, line 26 that are overlapped in col. 5, lines 5-7 where the corresponding points of each image are determined.) corresponding to a common location of the original image, shared (Each set of images "cover [or shares] the intended domain and content" in col. 4, lines 26,27. The intended domain refers to the claimed common location in the set of images.) by the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.), and

b) determining a matched point (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60. Thus, one point from the corresponding points can be a matched point.) of one of the other partially overlapping images corresponding (Fig. 1,num. 102: SOURCE IMAGE SELECTION "finds a set of...images" in col. 4, line 26 where the corresponding points "...in overlapped regions...(col. 1, lines 29,30)" of each image are to be determined. Thus, one image from the set of images is the other image.) to the feature point (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60. Thus, one point from the corresponding points can be a feature point.) so that a direction (The method of determining "corresponding points in overlapped regions" in col. 1, lines 29-30 and col. 4, lines 58-60 is equivalent via an "or" statement in col. 1, line 28 to a method of "measurements of the camera viewing direction" in col. 1, lines 26-30, because both methods are used to align images.) of the object plane (Each image or "pairs of overlapping frames" has an associated surface in col. 10, lines 32-34.) is calculated (The surface or object plane is calculated or "computed" in col. 10, line 36.) based on the feature point and the matched point ("Matched measures" in col. 10, lines 34-36 or the corresponding points as matched measures are used to compute the surface or object plane.) ;

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c) a standard image setting unit (fig. 2 is a setting or selecting unit that corresponds with fig. 7,num. 720: BACK END ALIGNMENT.) and second program means (Fig. 15 is a flow chart that contains a means 1512 in col. 22, line 49 that allows a selection of an image in col. 22, lines 53,54.) for selecting one (fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION corresponds to fig. 7,num. 720: BACK-END ALIGNMENT where a selection step of an image is performed in col. 22, lines 51-57.) of the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.) as a standard image (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.) whose image distortions are to be corrected (The standard image or selected image which is based on the criteria minimizes a distortion in col. 22, lines 58-60.); and

d) a distortion correcting unit (Fig. 7, num. 720: BACK END ALIGNMENT) and third program means (Fig. 15 is a flow chart for the BACK END ALIGNMENT where step 1522:WARP IMAGE TO MOSAIC USING... is used for generating a distortion corrected image.) for generating a distortion-corrected image (Fig. 7, num. 720: BACK END ALIGNMENT generates a corrected image with "...minim[um] distortion of the image..." in col. 22, lines 58,59.) on a projection plane ("frames" in col. 10, line 27 contain "surfaces" in col. 10, line 28 that are used for alignment as described in col. 10, lines 19-42. Thus, the frames with surfaces are used with the BACK END ALIGNMENT of fig. 7, num. 720.) by projecting (A "projective" parameter in col. 4, lines 49-51 is used to align images in col. 4, lines 46-51.) the standard image (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria is projected for aligning.) onto the projection plane ("surfaces" in col. 10, line 28) based on the direction (The method of determining "corresponding points in overlapped regions" in col. 1, lines 29-30 and col. 4, lines 58-60 is equivalent via an "or" statement in col. 1, line 28 to a method of "measurements of the camera viewing direction" in col. 1, lines 26-30, because both methods are used to align images.) of the object plane (Each image or "pairs of overlapping frames" has an associated surface in col. 10, lines 32-34.) such that image distortions (A "distortion" in col. 22, line 59.) in the standard image (The selected image is "based on... criteria" in col. 22, lines 51,52.) are eliminated (The standard image or selected image based on the criteria minimizes a distortion in col. 22, lines 58-60. Thus, image distortions are eliminated or minimized.).

Regarding claim 3, Herman et al. discloses the image processing method according to claim 1 wherein in said selecting step, (fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION corresponds to fig. 7,num. 720: BACK-END ALIGNMENT where a selection step is performed in col. 22, lines 51-57.), one of the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.) is automatically selected ("selected...automatically" in col. 4, lines 23-25) as the standard (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.) based on a direction of a straight-line pattern ("pattern orientation" in col. 7, line 35 is used in the section "Quality Based Selection" in col. 7, lines 12-55 to select an image.) contained in each image.

Regarding claim 4, Herman et al. discloses the image processing method according to claim 1 wherein in said selecting step, (fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION corresponds to fig. 7,num. 720: BACK-END ALIGNMENT where a selection step is performed in col. 22, lines 51-57.), one of the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.) is automatically selected ("selected...automatically" in col. 4, lines 23-25) as the standard (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.) based (The selection step of fig. 1,num. 107 is based on the feature point and the matched point determined in step 103 of fig. 1.) on the feature point (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60. Thus, one point from the corresponding points can be a feature point.) and the matched point (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60. Thus, one point from the corresponding points can be a matched point while the other can be the feature point.) determined by said determining step (Fig. 1,num. 103:IMAGE ALIGNMENT determines "corresponding points" in col. 4, lines 59,60.).

Regarding claim 5, Herman et al. discloses the image processing method according to claim 1, wherein in said selecting step (fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION corresponds to fig. 7,num. 720: BACK-END ALIGNMENT where a selection step is performed in col. 22, lines 51-57.), one of the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.) is automatically selected ("selected...automatically" in col. 4, lines 23-25) as the standard (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.), based on a calculated direction (The method of determining "corresponding points in overlapped regions" in col. 1, lines 29-30 and col. 4, lines 58-60 is equivalent via an "or" statement in col. 1, line 28 to a method of "measurements of the camera viewing direction" in col. 1, lines 26-30, because both methods are used to align images.) of the object plane (Each image or "pairs of overlapping frames" has an associated surface in col. 10, lines 32-34.) for each of the partially overlapping images (Fig. 1,num. 102: SOURCE IMAGE SELECTION "finds a set of...images" in col. 4, line 26 where the corresponding points "...in overlapped regions...(col. 1, lines 29,30)" of each image are to be determined.).

Claim 6 is similar to claim 1, except for the limitation of

a) an image composition unit (Fig. 7, num. 722: BLENDING) and program code means (Fig. 7, num. 722 in col. 18, line 2 is used with "software" for a computer in col. 17, lines 58-64.) for combining (Fig. 7, num. 722: BLENDING blends the images of the corresponding step of fig. 1, num. 107: OUTPUT FORMATTING AND PREPARATION.) the other partially overlapping images (Fig. 1, num. 102: SOURCE IMAGE SELECTION "finds a set of...images" in col. 4, line 26 where the corresponding points "...in overlapped regions...(col. 1, lines 29,30)" of each image are to be determined. Thus, one image from the set of images is the other image.), which are projected (A "projective" parameter in col. 4, lines 49-51 is used to align images in col. 4, lines 46-51.) onto an image surface ("frames" in col. 10, line 27 contain "surfaces" in col. 10, line 28 that are used for alignment as described in col. 10, lines 19-42. Thus, the frames with surfaces are used with the BACK END ALIGNMENT of fig. 7, num. 720.) of the standard image (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus, an image that is selected based upon criteria is a standard image that adheres to the criteria and is used for "alignment" in col. 22, lines 58-60 of the other images.) with respect (The selected image is the "initial mosaic" in col. 22, line 58 where the other images will be projected in the "final alignment" in col. 22, line 60 with respect to the initial mosaic. Note that any alignment "entails" in col. 4, line 46 a parameter that is projective via a transform in col. 4, lines 46-51.) to each of the other partially overlapping images (Fig. 1, num. 102: SOURCE IMAGE SELECTION "finds a set of...images" in col. 4, line 26 where the corresponding points "...in overlapped

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regions...(col. 1, lines 29,30)" of each image are to be determined. Thus, one image from the set of images is the other image.), so that a composite image (Fig. 7, num. 724: SEAMLESS MOSAIC) is generated on the image surface ("surfaces" in col. 10, line 28 as used to create the composite image.) so as to correct (The standard image or "initial mosaic" in col. 22, line 58 is "select[ed]" in col. 22, line 55 to "minimize distortion[s]" in col. 22, lines 58,59.) image distortions (A "distortion" in col. 22, line 59.) in the standard image (The selected image or initial mosaic is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.).

Claim 7 is rejected the same as claims 1 and 6. Thus, argument similar to that presented above for claims 1 and 6 are equally applicable to claim 7.

Regarding claim 8, Herman et al. discloses the image processing apparatus according to claim 7,

a) wherein said standard image setting unit (fig. 7,num. 720: BACK-END ALIGNMENT) is configured such that a user ("user selection" in col. 22, lines 53,54) is required to select the standard image (The selected image is the "initial mosaic" in col. 22, line 58) when taking the original image from one of the oblique directions (A camera obtains the original image at a viewing direction in col. 1, lines 26-28.), and

b) wherein said image processing apparatus (fig. 1 is an image processing apparatus.) further comprises a notification unit (Fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION contains a program shown in fig. 15 that contains a notification unit at fig. 15, step 1512: ESTABLISH COORDINATE SYSTEM.) which notifies the user (A user at step 1512 can select the standard image in col. 22, lines 51-54.) that the standard image is currently taken.

Claim 9 is rejected the same as claims 1 and 7. Thus, argument similar to that presented above for claims 1 and 7 are equally applicable to claim 9.

Claim 10 is rejected the same as claim 8. Thus, argument similar to that presented above for claim 8 is equally applicable to claim 10.

Claims 12,13 and 14 are rejected the same as claims 3,4 and 5, respectively. Thus, arguments similar to that presented above for claims 3,4 and 5 are equally applicable to claims 12,13 and 14, respectively.

Claim 15 is rejected the same as claim 1. Thus, argument similar to that presented above for claim 1 is equally applicable to claim 15.

Claim 16 is rejected the same as claim 6. Thus, argument similar to that presented above for claim 6 is equally applicable to claim 16.

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Regarding claim 17, Herman et al. discloses the image processing method of claim 1, wherein said standard image (The selected image is “based on... criteria” in col. 22, lines 51,52. Thus, an image that is selected based upon criteria is a standard image that adheres to the criteria and is used for “alignment” in col. 22, lines 58-60 of the other images.) is projected (A “projective” parameter in col. 4, lines 49-51 is used to align images in col. 4, lines 46-51.) with a perspective projection matrix operation (“matrices” in col. 15, line 47 are used for “image-registration” in col. 15, line 34 and “registration” in col. 4, lines 44,45 or alignment that “entails” in col. 4, line 46 as projective parameter in col. 4, lines 49-51.).

Claims 18,19,20,21 and 22 are rejected the same as claim 17. Thus, argument similar to that presented above for claim 17 is equally applicable to claims 18,19,20,21 and 22.

Regarding claim 23, Herman et al. discloses the image processing method of claim 17, wherein said perspective projection matrix ("matrices" in col. 15, line 47 are used for "image-registration" in col. 15, line 34 and "registration" in col. 4, lines 44,45 or alignment that "entails" in col. 4, line 46 as projective parameter in col. 4, lines 49-51.) is calculated based on coordinates of at least four combinations of feature points ("corresponding points" in col. 4, line 59,60 are used for images. Thus, two images can have 2 or more corresponding points selected by a user who can select any combination of 2 or more corresponding points.) of the standard image (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus, an image that is selected based upon criteria is a standard image that adheres to the criteria and is used for "alignment" in col. 22, lines 58-60 of the other images.) and matched points corresponding thereto.

Regarding claim 24, Herman et al. discloses the image processing method of claim 18, wherein a least-square-method ("least-square adjustment" in col. 15, line 39) is used to find parameters (The least square adjustment is used solve for "parameters" in col. 15, line 49 via a transform in col. 15, line 40.) of said perspective projection matrix ("matrices" in col. 15, line 47 contain parameters in col. 15, lines 50,51 and are used for "image-registration" in col. 15, line 34 and "registration" in col. 4, lines 44,45 or alignment that "entails" in col. 4, line 46 as projective parameter in col. 4, lines 49-51.).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al. (US Patent 6,075,905 A) in view of Inuiya (US Patent 6,597,468 B1).

Regarding claim 2, Herman et al. teaches the method according to claim 1 wherein in said selecting step (fig. 1,num. 107: OUTPUT FORMATTING AND PREPARATION corresponds to fig. 7,num. 720: BACK-END ALIGNMENT where a selection step is performed in col. 22, lines 51-57.), one of the plurality of partially overlapping images (The set of images from fig. 1, num. 102 are overlapped in col. 5, lines 5-7.) is automatically selected ("selected...automatically" in col. 4, lines 23-25) as the standard (The selected image is "based on... criteria" in col. 22, lines 51,52. Thus an image selected based upon criteria is a standard image that adheres to the criteria.) based on an area of an object region ("sub images" are selected in col. 4, line 39.) to an entire area of each image ("larger images" in col. 4, line 40.).

Herman et al. does not teach the limitation of the claimed ratio, but does suggest that an image can be selected based on various features as shown in figure 2, numerals 201-203.

However, Inuiya, in the similar field of photography, does suggest an image processing method (Fig. 10,num. 28:ADDITIONAL INFORMATION is a method that processes an image or "PANORAMA" of fig. 10, num. 28.) wherein in a selecting step (Fig. 10, num. 28:ADDITIONAL INFORMATION contains a step that can "select" in col. 6, lines 10 and 11.), one of the plurality of partially overlapping images ("any of the plurality of image[s]...(col. 6, lines 11 and 12)" can be selected. Thus, the word "any" corresponds to any number of images that can be selected.) is automatically selected ("automatically select" in col. 6, line 23) as the standard ("optimum one" in col. 6, line 23) based (The selection is based on a "function" in col. 7, line 5 that determines a "ratio" in col. 7, line 10.) on a ratio ("the ratio" in col. 7, line 10) of an area ("portion" in col. 7, line 11) of an object region ("overlapped portion" in col. 7, line 11 where overlapped corresponds to the claimed object.) to an entire area ("entire area" in col. 7, line 11) of each image.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Herman et al.'s teaching of selecting an image with Inuiya's teaching of selecting an image based on a ratio, because Inuiya's teaching will provide a "panoramic photograph" in col. 7, line 3 which is a "high quality photograph[]...(col. 6, line 53)."

Claim 11 is rejected the same as claim 2. Thus, argument similar to that presented above for claim 2 is equally applicable to claim 11.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario-Vasquez whose telephone number is 703-305-5431. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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